

The subspecies of *Diplodactylus spinigerus* (Lacertilia: Gekkonidae)

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Abstract

The gecko *Diplodactylus spinigerus* is endemic to southern Western Australia. It is divisible into two subspecies: *D. s. spinigerus* Gray of the west coast and *D. s. inornatus* subsp. nov. from further east.

Introduction

Diplodactylus spinigerus, a member of the subgenus *Strophurus*, is closely related to the *Diplodactylus ciliaris* complex (Storr 1988) and occupies that part of Western Australia which lies to the west and south of the southernmost members of the complex, namely *D. assimilis* and *D. intermedius* (see Figure 1).

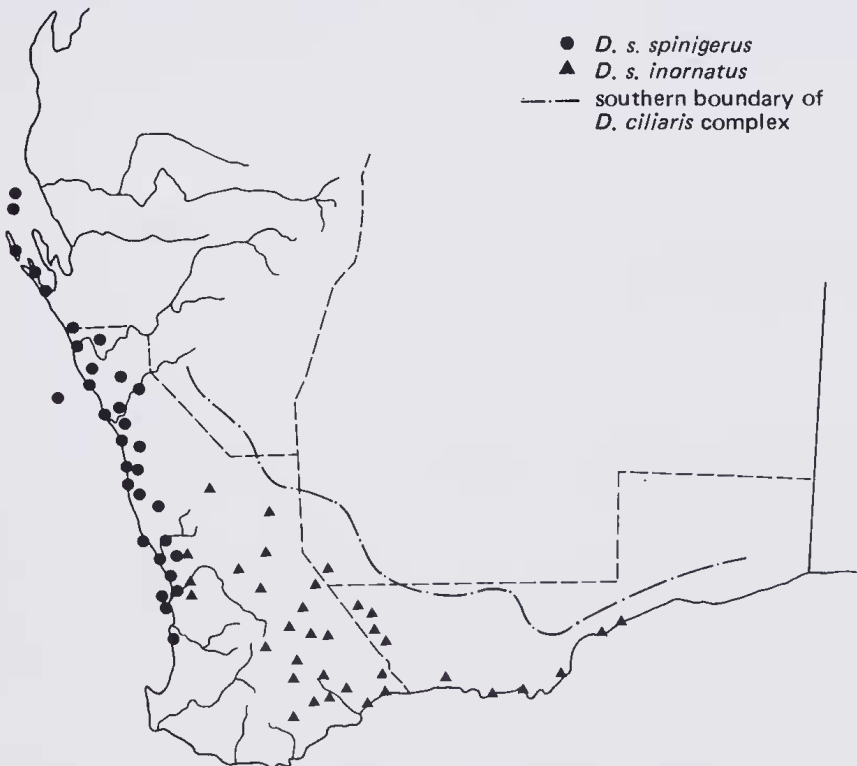


Figure 1 Map of southern Western Australia showing location of specimens of *D. s. spinigerus* and *D. s. inornatus* and of southern boundary of *D. ciliaris* complex.

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For some time naturalists have been aware that there was a considerable geographic gap and morphologic difference between the west coast and wheat belt populations of *D. spinigerus*. However, that gap (100-140 km wide) has proved not to mark the boundary between the two forms. The present revision has unexpectedly revealed that it is the few kilometres between the top and bottom of the Darling Scarp that separate the two.

This paper is based on specimens in the Western Australian Museum (R prefix omitted from catalogue numbers) and on colour slides kindly loaned by G. Harold, R.E. Johnstone, M. Peterson and B. Maryan.

Diplodactylus spinigerus spinigerus Gray

Figure 2

Diplodactylus spinigerus Gray 1842, *Zoological Miscellany*, p. 53. Houtman Abrolhos, Western Australia.

Diagnosis

A subspecies of *D. spinigerus* with a broad black median stripe on back and tail. (The species is distinguishable from all other *Diplodactylus* by the combination of two rows of long blackish spines on tail and very short or no spines above eye.)

Description

Snout-vent length (mm): 25-74 (N 345, mean 57.0). Length of tail (%SVL): 55-80 (N 252, mean 67.8).

Nostril surrounded by rostral (median groove almost always complete), 2 supranasals (first much the larger and divided in 2.6 per cent of specimens), 1 (N 171) or 2 (50) postnasals, and first labial. Internasals 0 (N 11), 1 (76), 2 (57), 3 (76) or 4 (2). Upper labials 11 (N 4), 12 (40), 13 (63), 14 (49), 15 (26) or 16 (6); 8-13 (mean 10.4) to middle of eye. Under side of digits with pair of large apical plates, followed on fourth toe distally by 1 (N 1), 2 (0), 3 (4), 4 (63), 5 (53), 6 (4) or 7 (1) transverse lamellae, and proximally by 1-4 (N 126, mean 2.2) rows of subcircular scales. Pre-anal pores in males, 2-9 (N 73 mean 5.6) on each side.

Spines above eye short or absent, usually dark brown with white base. Spines on back short, highest tending to form two fairly regular laterodorsal rows, usually black or dark brown and with a white base. Spines on tail moderately long to long, slender, in two regular laterodorsal rows, black or dark brown and usually with some white at base. Scales between caudal spines granular.

Upper and lateral surfaces grey except for broad, white-dotted, black stripe, straight-edged on tail, wavy-edged on back and sometimes extending irregularly on to head. Iris centrally maroon or chestnut, with or without small rounded or large angular greyish white spots, and peripherally a broad pale ring (whitish in Shark Bay area, yellow further south). Mouth blue-black.



Figure 2 A *Diplodactylus spinigerus spinigerus* from Green Head, photographed by R.E. Johnstone.

Distribution

West coast and hinterland of Western Australia from Edel Land south to beyond Mandurah, and inland to Eurardy, Bindoo Hill, Badgingarra, Gingin and Forrestfield. Also Bernier, Dorre, East Wallabi, West Wallabi, Lancelin, Rottnest and Garden Is.

Material

North-west Division (WA)

Bernier I. (14116); Dorre I. (46537, 57492); Dirk Hartog I. (42337, 44235, 44544, 45817, 45867, 70811); Steep Point (66217); 10 km NW Useless Loop (55196-201) and 3 km S (64940) and 4 km S (54718, 54739, 54775-81) and 6 km S (56475-7); False Entrance Well (55153-66, 66214-5, 81574, 82743-4); 2 km S Zuytdorp Point (56490-3); 8 km NW Tamala (15222-3).

South-west Division (WA)

7 km E Zuytdorp wreck (33921); Gee Gie Outcamp (34044); Kalbarri (34575) and 7 km E (33513) and 23 km ESE (33817-8, 33823-9) and 20 km SE (33789) and 8 km S (33880) and 11 km S (33697-700, 33735-8, 33749-51, 33756-7, 33764-5) and 18 km S (33758); 42 km N Galena (55015, 56141) and 37 km N (56142) and 4 km N (21836); 19 km NNW Ajana (33648); 20 km WSW Binnu (76394-6, 76414); Port Gregory (73900); 16 km N Yuna (26640); Bindoo Hill Reserve (48075); Wallabi Group (189); East Wallabi I. (19366); West Wallabi I. (15229-33); 12 km N Northern Gully (15224); Wicherina (76388-9); Geraldton (18586, 72925, 72928, 72973, 72981); mouth of Greenough River (41656-7); Burma Road Reserve (28°55'S, 115°01'E) (76405-10, 96816); Dongara (7484) and 7 km E (64732); 14 km WSW Mt Adams (69837); 3 km E Coolimba (72996); Leeman (73121) and 3-13 km N (22732-5, 71999, 72982, 72990, 72997, 73096-7, 73105, 73110, 73123) and 2-8 km S (73101, 73108,

73122); Stockyard Gully (30303-4); 10 km S Eneabba (78104-5); Green Head (30288, 67808-9, 86872-5, 86884) and 5 km E (49069-70); Eatha Spring (48501); 4 km NW Mt Peron (49048, 49050-3) and 2 km W (49144-55) and 2 km E (48433); 4 km NW Padbury (48548-9) and 5 km W (48467-8, 48472, 48481, 49090-1) and 6 km S (48512-3); Cockleshell Gully (31967, 48431); Mt Lesueur (11164-5); near Jurien (15858, 29195-203, 30322, 59672-4, 57591) and 10 km S (54305); Badgingarra (62162) and 22 km S (55993); Badgingarra National Park (68689-710); 8 km NNE Cervantes (93148); Lancelin I. (26604, 52094); 3 km S Lancelin (49974) and 5 km S (93124); Moore River (31080-2); Moore River National Park (59413, 59415-6); Gingin (21224); 6 km E Guilderton (59442); Yanchep National Park (26480-1, 47661, 59139, 59142, 59151, 59153, 59208, 59439, 59451-3); Muchea (4371); 3 km NNE Burns Beach (83112-4, 83135); Melaleuca Park (59057, 59119, 59458); Wanneroo (78475); 3 km N Mullaloo (61748, 61775); Tuart Hill (4153); North Beach (4766); Guildford (96993); Scarborough (48164-7); Wembley Downs (58814); City Beach (29398); Bold Park (90462-3, 90517); Perth (54267, 54320-1); Point Resolution (53713); Swanbourne (75670); Mosman Park (39737, 94401); Rottnest I. (2854, 2914-5, 3283-93, 3718, 3720, 15235-40, 39652, 96997); Forrestfield (4570); Garden I. (207, 3313, 4575, 33376-7, 88054-5); Yalgorup National Park (73583-4).

Diplodactylus spinigerus inornatus subsp. nov.

Figures 3 and 4

Holotype

78354 in Western Australian Museum, collected by B.G. Muir on 17 November 1980 in Frank Hann National Park (32°58'S, 120°06'E), Western Australia.

Paratypes

The 88 specimens listed under Material.

Diagnosis

A subspecies of *D. spinigerus* without black pattern on head or back.

Description

Snout-vent length (mm): 31-71 (N 89, mean 58.7). Length of tail (% SVL): 53-81 (N 73, mean 66.7).

Nostril surrounded by rostral (median groove complete), 2 supranasals (first much the larger and divided in 1.6 per cent of specimens), 1 (N 53) or 2 (11) postnasals, and first labial. Internasals 1 (N 27), 2 (11), 3 (24) or 4 (2). Upper labials 11 (3), 12 (11), 13 (17), 14 (17), 15 (12), 16 (1) or 17 (1); 8-13 (mean 10.6) to middle of eye. Under side of digits with pair of large apical plates, followed on fourth toe distally by 3 (N 4), 4 (20), 5 (21) or 6 (7) transverse lamellae, and proximally by 1-4 (N 52, mean 2.3) rows of subcircular scales. Pre-anal pores in males, 4-10 (N 19, mean 6.5) on each side.

Spines above eye short or absent, usually dark brown with white base. Spines on back short, highest tending to form two irregular laterodorsal rows, usually black or dark brown and with white base. Spines on tail moderately long, slender, in two fairly regular laterodorsal rows, black or dark brown and usually with white base. Scales between caudal spines tending to be tubercular, with highest usually on same whorl as spines.



Figure 3 A *Diplodactylus spinigerus inornatus* from 10 km E Esperance, photographed by B. Maryan.



Figure 4 Head of a *Diplodactylus spinigerus inornatus* from the Fitzgerald National Park, photographed by G. Harold.

Upper and lateral surfaces grey, without pattern except for heavily black-dotted upper (and lower) surfaces and rarely for black, white-dotted upper surface of tail. Iris maroon or brownish red, with or without small rounded or large angular whitish spots, and with or without a narrow to moderately wide orange-red peripheral ring. Mouth blue-grey or pale blue. Tongue black or dark blue-grey.

Distribution

South-east coast of Western Australia from Fitzgerald Inlet east to Toolinna Cove, thence inland through the southern interior north to Dalwallinu, 19 km N Bencubbin, Mt Hampton, North Ironcap and Frank Hann National Park and west to Cunderdin, Quairading, Kulin, Nyabing and the Stirling Range. An isolated population further west, i.e. west edge of Darling Range from east of Gingin south to east of Perth.

Material

South-west Division (WA)

Mooliabeenee (90341, 93045); Walyunga National Park (88103); Swan View (1202); Darlington (2176); Boya (25360); Mundaring Weir (49952); Kalamunda (679, 96996); Bickley (716); Lesmurdie (19666-7, 61343); 20 km NE Dalwallinu (58226); 19 km N Bencubbin (97249); 25 km N Kellerberrin (56558); Cunderdin (2320); Borayukkin Rock (71867); Yoting (4441); 11 km E Quairading (52440); 12 km ENE Bendering (43401, 64887, 67512-3) and 7 km ENE (52563-4, 55302-4); Kulin (4372); 8 km N Pingaring (36678-9); Dragon Rocks Reserve (42975, 43732, 43739); Dongolocking Reserves (49760-1); 25 km SE Kukerin (96693); Greenshield Soak (39844, 39858-60, 39880, 39885) and 3 km W (39914-7); 10 km S Nyabing (13296, 96992); Ravensthorpe (96994); 5 km N Hopetoun (55935); Culham Inlet (89389); East Mt Barren (15241, 95400); 33 km NE Jerramungup (96964); Calyerup (9674); 10 km SE Ongerup (42617); Fitzgerald National Park (89288, 94285); Fitzgerald Inlet (55931, 56059-60); Tolls Pass, Stirling Range (1994); Bluff Knoll Road (34°20'S, 118°08'E) (91075).

Eastern Division (WA)

Mt Hampton (39094).

Eucla Division (WA)

North Ironcap (65364, 66081); 7.5 km WSW Lake Cronin (65153, 68057-8); 25 km N Forrestania (56057); South Ironcap (66088-9); Frank Hann National Park (69972, 78352, 78354, 81415); Lort River (86660); Duke of Orleans Bay (41923, 41934); mouth of Thomas River (86995); Yokinup Bay (89476-8); Cape Arid National Park (56923); 11 km W Point Dempster (77949); 8 km W Israelite Bay (31116); 18 km W Point Culver (44972); 7 km NE Toolinna Rockhole (66988).

Reference

Storr, G.M. (1988). The *Diplodactylus ciliaris* complex (Lacertilia: Gekkonidae) in Western Australia. *Rec. West. Aust. Mus.* 14: 121-133.